

# PATENT SPECIFICATION

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## PROVISIONAL SPECIFICATION

### Improved Method and Means in the Construction of Buildings and the like

I, ARTHUR ERNEST EVERARD CUCKOW, of "Romus," Ambleside Avenue, Walton-on-Thames, British, do hereby declare the nature of this invention to 5 be as follows:—

This invention relates to an improved method and means in the construction of buildings and the like either built up of the special members, herein described, 10 on the site or built in sections and assembled on the site.

The principal feature of this invention is a special building member so formed that when built up a lattice frame work 15 or grillage is produced with the plane of the special members running at right angles to the two faces of the particular portion of the structure of which they 20 form part, i.e. walls, floors, ceilings and roof: to produce the maximum rigidity and strains and stresses are distributed and dissipated over the greatest possible area.

These special members are secured together to form the lattice framework 25 with bolts or special fixing device.

The junctures of the various parts of the structure, i.e. outer and internal walls, floors, ceilings and at the eaves between the walls and the roof also for the 30 fixing of door and window frames is secured by a special claw fixing device, which is also employed between sections where the lattice work is preformed and assembled on the site.

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The material used for the special members may be asbestos cement, reinforced concrete, metal or any suitable material.

The skeleton framework of the structure can be covered with a variety of 40 materials such as, expanded metal and cement, lath and plaster, felt, building sheets, boards or slabs or other suitable covering.

Dated the 6th day of June, 1944.

A. E. E. CUCKOW.

## COMPLETE SPECIFICATION

### Improved Method and Means in the Construction of Buildings and the like

45 I, ARTHUR ERNEST EVERARD CUCKOW, of "Romus," Ambleside Avenue, Walton-on-Thames, Surrey, British, do hereby declare the nature of this invention and in what manner the same is to be 50 performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to improved method and means in the construction of 55 walls and parts of building structures and has for its object to provide a simple pre-formed standard building unit, hereinafter referred to as the "standard unit," which is assembled either on the 60 site or in factory sections and transported to the site to form the whole, or in part, the carcass of a structure, which in turn is covered with expanded metal and

cement rendered, lath and plaster, building sheets and slabs or any other suitable 65 cladding material.

According to this invention I provide a standard unit of metal or other suitable material, of preformed zig-zag shape and having flats to allow a number of these 70 units to be directly secured together to form the walls, and floor, ceilings etc. of a structure with the planes of the units standing at right angles to the plane of section or part of a structure in which 75 they form an integral part. The flats or convenient faces of contact, are adapted to be fastened together by means of rivets and bolts and preferably supplemented with an interlocking arrangement of 80 lugs which are stamped out of the metal during fabrication. It is also anticipated

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that the units may be secured together by welding.

According to this invention there are other features which may be present in 5 the design of the standard unit, such as,

an open lipped perforation in the web of the unit which serves to stiffen the unit and at the same time to provide access within the cavity of the finished wall for

10 the installation of piping and cables, and also for ventilation within the cavity.

Another feature of the standard unit is the provision of attachment tags or claws, formed by cutting the longitudinal 15 edges of the unit to allow a narrow piece of metal to be bent to hold the expanded or other covering material.

The standard units are assembled in series to form the carcassing of the 20 various parts of a structure, i.e., walls, floors, ceilings and roof, or in convenient size sections. The junctures between the main parts and sections of the structure are preferably and conveniently made by

25 interposing wood bedding plates, into which the lugs of the units and joint plates become embedded on tightening the bolts securing together the principal parts and sections of a building thus 30 providing a bond throughout the structure. The wood plates also provide a ready fixing for the cladding material.

At the intersection of the main walls, reinforced concrete posts may be used 35 to advantage.

In order that the invention and the manner in which the standard units are assembled may be clearly understood and readily carried into effect, the same 40 will now be described more fully with reference to the accompanying drawings:—

Figure 1, is an isometric view of a 45 standard unit according to my invention. Figure 2, is a section on line x—x of Figure 1.

Figure 3, is an enlarged view of a portion of a unit.

Figure 4, is a cross section on line 50 Y—Y of Figure 1.

Figure 5, shows an assemblage of 55 standard units to form the carcassing of the main parts of a building structure.

Figure 6, is a view of a joint plate.

Figure 7, is a view of an assemblage 60 suitable for a concrete floor.

Figure 8, is a cross section of Figure 7.

Figures 9 and 10 show fittings.

65 The standard unit according to my invention comprises a strip of metal Fig. 1, preformed into zig-zag shape and formed with flats A. The flats A are formed with lugs B Fig. 2 and holes C. A number of these units are adapted to

be connected together to form a wall, floor, etc. of a building by engaging the flats A so that the lugs B inter-engage and by fixing bolts or rivets in the holes C.

The units may be stiffened by open lipped perforations D Figs. 1 and 4 or by ribs D1 and edge flanges D2. Narrow strips of metal E Fig. 3 may be cut from the edges of the unit to form claws for 75 the attachment of cladding material.

Figure 5 illustrates an assemblage of standard units to form the carcassing of the main parts of a building structure, i.e. walls F, floors G, and ceilings H. 80 The free ends of the units are held with joint plates K. Figure 6 is an independent view of a joint plate which has lugs and rivet holes to correspond with the standard units. The juncture between 85 the main parts of the structure are made by interposing timber plates J, into which the lugs of the units and the joint plates on either side of the timber plates become embedded on tightening the 90 holding bolts P, securing together the main parts of the structure, so bonding and tying the several parts together. G is an assemblage for a wood floor with timber seams J to provide a nail fixing 95 for the floor boards.

Figure 7 is a view of an assemblage suitable for a concrete floor. L is a built up lattice of standard units and in the 100 openings are laid baskets of expanded metal M which are filled with concrete N leaving an air cavity underneath.

Figure 8 is a section of Figure 7, showing air cavity O.

Figures 9 and 10 illustrate incidental 105 fittings to complete a structure. Figure 9 is a ridge receiving plate and Figure 10 an eaves bracket.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. A standard constructional unit of 115 metal or other suitable material of pre-formed zig-zag shape and having flats to allow a number of these units to be directly secured together to form the walls, and floors, ceilings etc. of a structure, with the planes of the units standing at right angles to the plane of the walls etc.

2. A standard constructional unit as 120 claimed in Claim 1, preformed with interlocking lugs and rivet holes.

3. A standard constructional unit as 125 claimed in Claims 1 and 2, with pre-formed open lipped perforations.

4. A standard constructional unit as 130 claimed in Claims 1 to 3, with pre-formed

stiffening ribs, and flanges.

5. A standard constructional unit as claimed in Claims 1 to 4 with cut edges to form attachment claws.

5 6. An assemblage of standard units as claimed in Claims 1 to 5 secured together with rivets and bolts.

7. An assemblage of standard units as claimed in any preceding Claim, secured 10 together by welding.

8. An assemblage of standard units as claimed in any preceding Claim, with timber plates interposed.

9. An assemblage of standard units as 15 claimed in any preceding Claim, with

reinforced concrete posts incorporated at at the main intersections of the walls.

10. A concrete floor comprising an assemblage of standard units as claimed in any preceding Claim, with expanded 20 metal, netting or other suitable material laid in the open sections and filled with concrete, leaving an air cavity under the floor.

11. Improved method and means in the 25 construction of buildings and the like, substantially as described with reference to the drawings herewith.

Dated the 5th day of June, 1945.

A. E. E. CUCKOW.

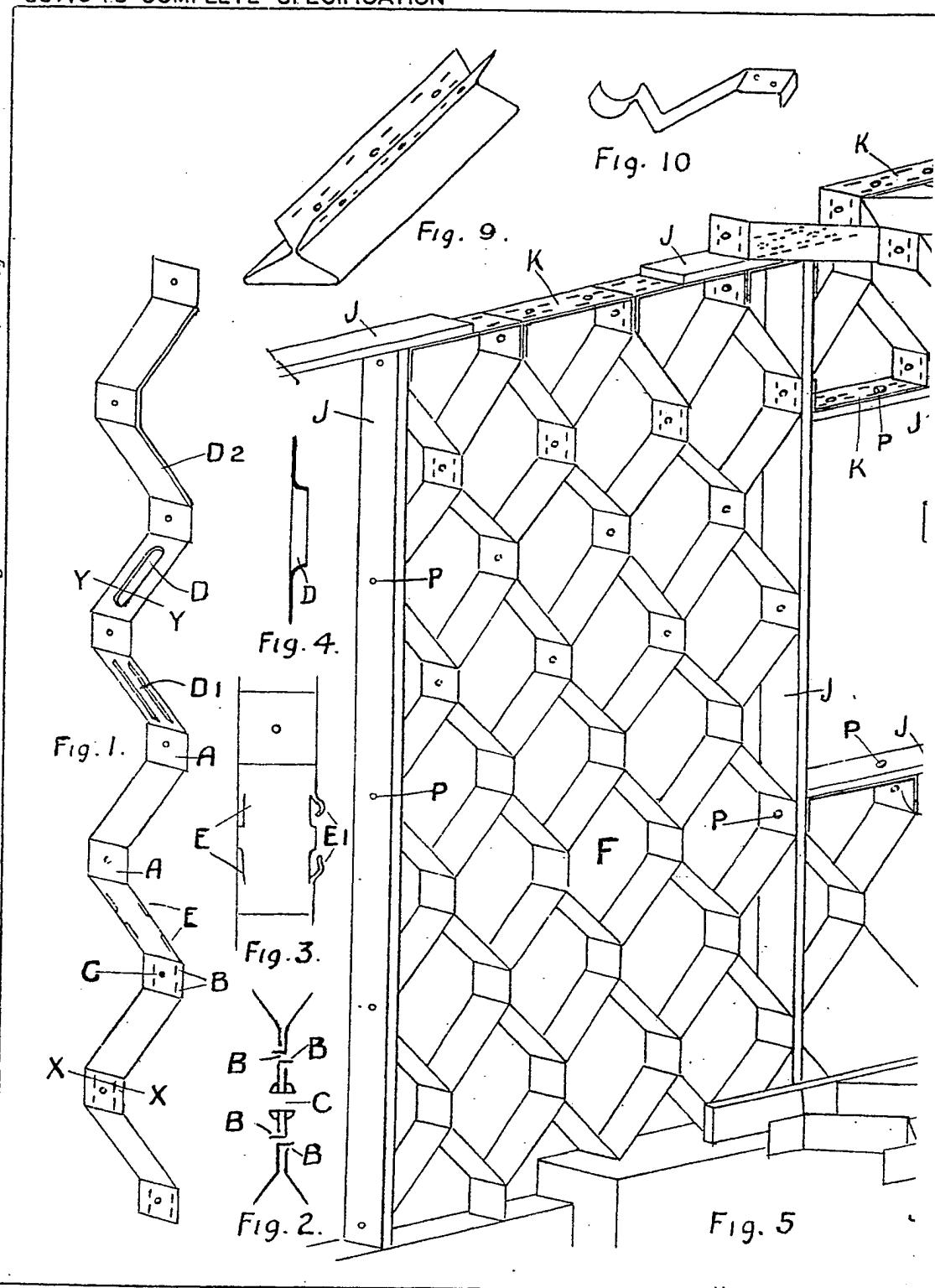
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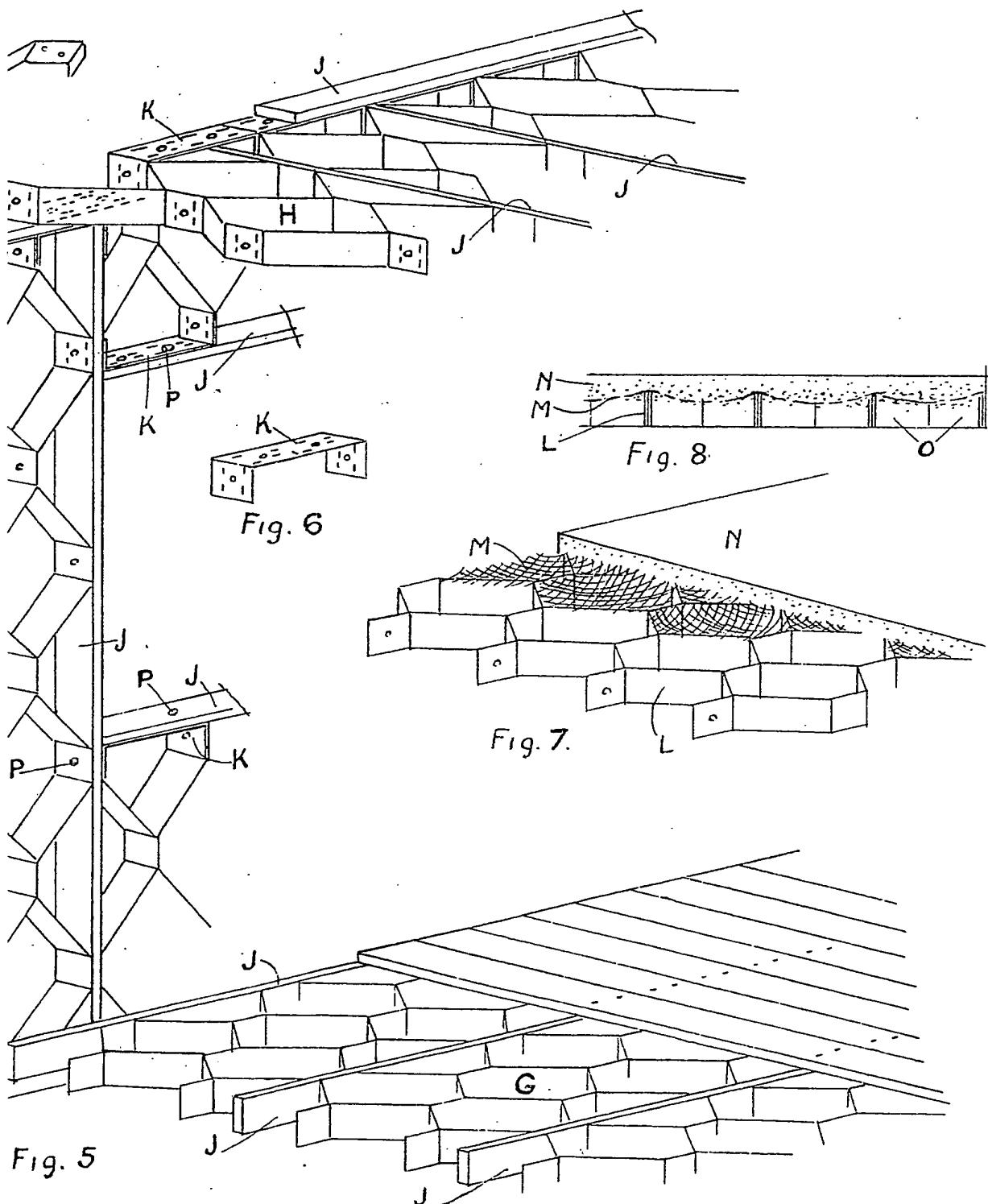
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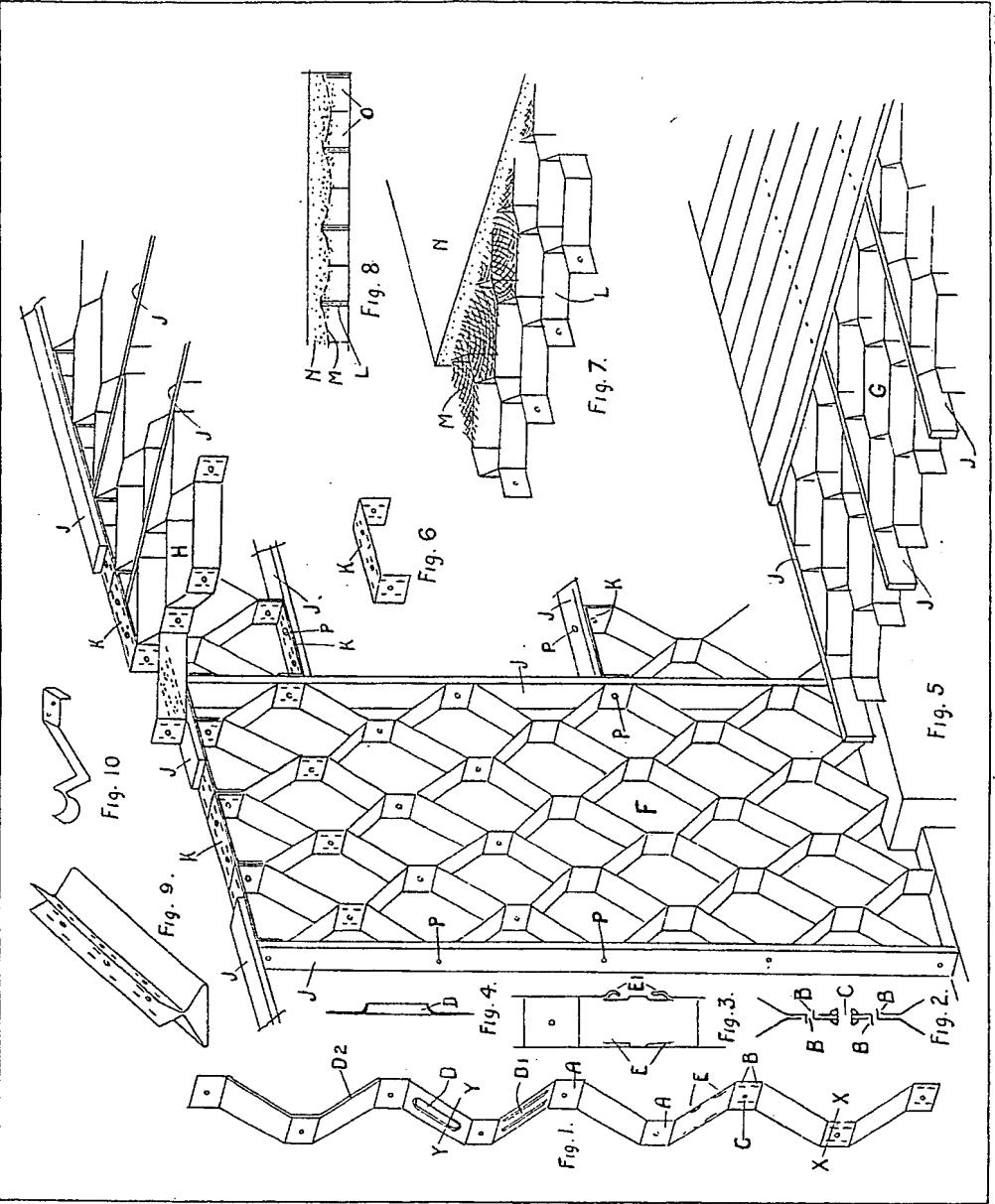
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H.M.S.O. (Ty. P.)

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